

## Appendix B

## Certified Validation Report Template, Part A: Provided by Validator

**Audit Information:**

Water Supplier Name: Chino PWS ID: 3e10012  
System Type: Potable Audit Period: CY 2019  
Utility Representation: Pete Vicario  
Validation Date: 9-24-20 Call Time: Sufficient Supporting Documents Provided: yes

**Validation Findings & Confirmation Statement:****Key Audit Metrics:**

Data Validity Score: 59 Data Validity Band (Level): III (51-70)  
ILI: 2.01 Real Loss: 762.459 AF Apparent Loss: 190.672 AF  
Non-revenue water as percent of cost of operating system: 7.1%

**Certification Statement by Validator:**

This water loss audit report has been Level 1 validated per the requirements of California Code of Regulations Title 23, Division 2, Chapter 7 and the California Water Code Section 10608.34.

All recommendations on volume derivation and Data Validity Grades were incorporated into the water audit. ☒

*If not, rejected recommendations are included here.*

**Validator Information:**

Water Audit Validator: Amanda Coker Qualifications: Water Audit Validator Certificate issued by the CA-NV Section of the AWWA

# Certified Validation Report Template, Part B: Provided by Utility

Water Supplier Name: Chino

Water Supplier ID Number: 3010012

Water Audit Period: CY 2019

## Water Audit & Water Loss Improvement Steps:

Utility to provide steps taken in preceding year to increase data validity, reduce real loss and apparent loss as informed by the annual validated water audit:

include treatment plant effluent reads in monthly production reports and use those reads for the CY2020 audit. Continue to test meters annually and calibrate if needed. Consider tracking storage tank levels and using SCADA data to confirm meter reads. Have CDA and WFA meters tested volumetrically on an annual basis. Use GIS to determine length of mains for FY2020. Include <sup>system</sup> pressure data for next audit.

## Certification Statement by Utility Executive:

This water loss audit report meets the requirements of California Code of Regulations Title 23, Division 2, Chapter 7 and the California Water Code Section 10608.34 and has been prepared in accordance with the method adopted by the American Water Works Association, as contained in their manual, *Water Audit and Loss Control Programs, Manual M36, Fourth Edition* and in the Free Water Audit Software version 5.

Executive Name (Print)

Pete Vicario

Executive Position

Water Utilities Supervisor

Signature



Date

9.28.20

Utility Provided



# AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0

American Water Works Association.  
Copyright © 2014. All Rights Reserved.[Click to access definition](#)  
[Click to add a comment](#)Water Audit Report for: **City of Chino (3810012)**  
Reporting Year: **2019** 1/2019 - 12/2019

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

**All volumes to be entered as: ACRE-FEET PER YEAR**

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

**WATER SUPPLIED**

Volume from own sources:  5  4,373.320 acre-ft/yr  
Water imported:  5  9,172.680 acre-ft/yr  
Water exported:  n/a  0.000 acre-ft/yr

**Master Meter and Supply Error Adjustments**

Pcnt:  3  98.210 acre-ft/yr  
Value:  0.00%  0.000 acre-ft/yr  
Value:  0.00%  0.000 acre-ft/yr

Enter negative % or value for under-registration  
Enter positive % or value for over-registration

**WATER SUPPLIED:**  13,447.790 acre-ft/yr**AUTHORIZED CONSUMPTION**

Billed metered:  7  12,463.500 acre-ft/yr  
Billed unmetered:  n/a  0.000 acre-ft/yr  
Unbilled metered:  n/a  0.000 acre-ft/yr  
Unbilled unmetered:  5  31.159 acre-ft/yr

**AUTHORIZED CONSUMPTION:**  12,494.659 acre-ft/yr**WATER LOSSES (Water Supplied - Authorized Consumption)** 953.131 acre-ft/yr**Apparent Losses**Unauthorized consumption:  33.619 acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:  3  125.894 acre-ft/yrSystematic data handling errors:  31.159 acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

**Apparent Losses:**  190.672 acre-ft/yr**Real Losses (Current Annual Real Losses or CARL)****Real Losses = Water Losses - Apparent Losses:**  762.459 acre-ft/yr**WATER LOSSES:**  953.131 acre-ft/yr**NON-REVENUE WATER****NON-REVENUE WATER:**  984.290 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

**SYSTEM DATA**

Length of mains:  3  269.0 miles  
Number of active AND inactive service connections:  7  20,876  
Service connection density:  78 conn./mile main

Are customer meters typically located at the curbstop or property line?  Yes

(length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:  8  74.0 psi**COST DATA**

Total annual cost of operating water system:  9  \$16,869,026 \$/Year  
Customer retail unit cost (applied to Apparent Losses):  10  \$2.78 \$/100 cubic feet (ccf)  
Variable production cost (applied to Real Losses):  4  \$826.12 \$/acre-ft ☒ Use Customer Retail Unit Cost to value real losses

**WATER AUDIT DATA VALIDITY SCORE:****\*\*\* YOUR SCORE IS: 59 out of 100 \*\*\***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

**PRIORITY AREAS FOR ATTENTION:**

Based on the information provided, audit accuracy can be improved by addressing the following components:

**1: Water Imported****2: Customer metering inaccuracies****3: Volume from own sources**





## AWWA Free Water Audit Software: System Attributes and Performance Indicators

WAS v5.0

American Water Works Association,  
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Water Audit Report for: **City of Chino (3610012)**

Reporting Year: **2019** **1/2019 - 12/2019**

**\*\*\* YOUR WATER AUDIT DATA VALIDITY SCORE IS: 59 out of 100 \*\*\***

### System Attributes:

Apparent Losses:	190.672	acre-ft/yr
+	Real Losses:	762.459 acre-ft/yr
=	<b>Water Losses:</b>	<b>953.131</b> acre-ft/yr

? Unavoidable Annual Real Losses (UARL): 380.19 acre-ft/yr

Annual cost of Apparent Losses: \$230,898

Annual cost of Real Losses: \$923,313 Valued at **Customer Retail Unit Cost**

Return to Reporting Worksheet to change this assumption

### Performance Indicators:

Financial:

{	Non-revenue water as percent by volume of Water Supplied:	7.3%	
	Non-revenue water as percent by cost of operating system:	7.1%	Real Losses valued at Customer Retail Unit Cost

Operational Efficiency:

{	Apparent Losses per service connection per day:	8.15	gallons/connection/day
	Real Losses per service connection per day:	32.61	gallons/connection/day
	Real Losses per length of main per day*:	N/A	
	Real Losses per service connection per day per psi pressure:	0.44	gallons/connection/day/psi

From Above, Real Losses = Current Annual Real Losses (CARL): 762.46 acre-feet/year

? Infrastructure Leakage Index (ILI) [CARL/UARL]: 2.01

\* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline



## AWWA Free Water Audit Software: Water Balance

WAS v5.0

American Water Works Association.

Water Audit Report for: **City of Chino (3610012)**Reporting Year: **2019**

1/2019 - 12/2019

Data Validity Score: **59**

Own Sources (Adjusted for known errors)  4,275.110	System Input 13,447.790	Water Exported 0.000	Billed Water Exported				Revenue Water 0.000
		Water Supplied  13,447.790	Authorized Consumption  12,494.659	Billed Authorized Consumption  12,463.500	Billed Metered Consumption (water exported is removed)  12,463.500	Revenue Water  12,463.500	
				Billed Unmetered Consumption  0.000			
				Unbilled Authorized Consumption  31.159	Unbilled Metered Consumption  0.000		Non-Revenue Water (NRW)  984.290
					Unbilled Unmetered Consumption  31.159		
			Water Losses  953.131	Apparent Losses  190.672	Unauthorized Consumption  33.619		
					Customer Metering Inaccuracies  125.894		
					Systematic Data Handling Errors  31.159		
				Real Losses  762.459	Leakage on Transmission and/or Distribution Mains Not broken down		
		Leakage and Overflows at Utility's Storage Tanks Not broken down					
Leakage on Service Connections Not broken down							